CLAIMS

1. A method of treating a tumor, comprising:

(a) creating an elevated concentration of free radicals in said tumor; and

(b) creating a magnetic field that traverses said tumor and that inhibits the recombination of said free radicals in said tumor, thereby causing an increased rate of apoptosis of cancerous cells.

2. The method of claim 1, wherein said free radicals are created in said tumor by means of electromagnetic radiation.

3. The method of claim 2, wherein said electromagnetic radiation is in the frequency band from 10^{10} Hz to 10^{20} Hz.

4. The method of claim 2, wherein said electromagnetic radiation is in the frequency band from $2*10^{14}$ to 10^{15}Hz.

5. The method of claim 2, wherein said electromagnetic radiation is applied to said tumor in conjunction with the introduction of a chemical agent.

6. The method of claim 1, wherein said free radicals are created in said tumor by means of the introduction of a chemical agent.

7. The method of claim 1, wherein said magnetic field is of a magnitude that facilitates the interstate crossing of singlet state free radical pairs to triplet state free radical pairs.

8. The method of claim 1, wherein said magnetic field has a magnitude in the range of 0.1 Tesla to 10 milli Tesla through said tumor.

9. The method of claim 1, wherein said magnetic field is of a magnitude that inhibits the interstate crossing of triplet state free radical pairs to singlet state free radical pairs.

10. The method of claim 1, wherein said magnetic field is created by at least one magnet positioned exterior to said tumor.

11. The method of claim 1, wherein said magnetic field is created by magnetic particles that are injected into proximity to said tumor.

12. The method of claim 1, wherein said elevated concentration of free radical pairs is created by sound waves.

13. The method of claim 1, wherein said elevated concentration of free radical pairs is created by acoustic cavitation.

14. The method of claim 1, wherein said free radicals interfere with the operation of enzymes within said tumor cells.

15. The method of claim 1, where free radical magnetic effects are contoured, scaled or designed to conform to tumor volume or shape.

16. The method of claim 1, where free radical reactivity is enhanced by introducing electromagnetic shielding to block ambient electromagnetic interference.